

## ACCESSORY MOUNT FOR FIREARMS

### BACKGROUND OF THE INVENTION

#### Field of the Invention

[0001] The present invention relates to firearms and, more particularly, to systems for mounting various accessories to firearms.

#### Description of the Prior Art

[0002] It is well known to mount various accessories, such as infrared and night vision scopes, laser spotters and the like, to firearms. Such accessories are typically mounted to an accessory mount securable to the firearms.

[0003] It is highly desirable that the accessory mount be rigidly mounted to the firearm so as to withstand vibrations and repeated firing shock during use. It is further desirable that the accessory mount be easily and quickly securable to and removable from the firearm without requiring any modification of the firearm, i.e. without need for providing extra attachment points, such as holes or grooves in the body of the firearms.

[0004] It has also been found that there is a need for a new accessory mount, which is specifically designed to releasably secure various accessories to a C9 machine gun.

### SUMMARY OF THE INVENTION

[0005] It is therefore an aim of the present invention to provide a new firearm accessory mount which fits existing firearm configurations.

[0006] It is also an aim of the present invention to provide an accessory mount which is sturdy and reliable.

[0007] It is a still further aim of the present invention to provide an accessory mount for removably mounting accessories to a C9 type machine gun.

[0008] Therefore, in accordance with the present invention, there is provided an accessory mount for releasably securing at least one accessory to a firearm, the mount comprising first and second opposed facing pieces adapted to be mounted on opposed sides of the firearm, said first and second opposed facing pieces being provided with localization aids adapted to engage existing reference points on the

firearm for appropriately positioning the first and second opposed facing pieces on the firearm, a fastener for drawing said first and second opposed pieces towards one another against the opposed sides of the firearm once said first and second arms have been appropriately positioned thereon, and at least one rail mounted to one of said first and second opposed facing pieces for receiving an accessory to be mounted to the firearm.

[0009] In accordance with a further general aspect of the present invention, there is provided an accessory mount for mounting at least one accessory to a firearm of the type having a body defining a hole extending in a direction transversal to a longitudinal axis of the firearm, and a firearm attachment point by which the firearm can be removably mounted to a firearm mount; the accessory mount comprising first and second opposed facing pieces adapted to be positioned on opposed sides of the firearm, each of said first and second opposed facing pieces being provided with first and second positioning members adapted to be respectively engaged with the hole and the firearm attachment point from opposite sides of the body of the firearm, a fastener for securing the first and second opposed facing pieces together about the body of the firearm, and at least one rail mounted to one of said first and second opposed facing pieces for removable engagement with an accessory to be mounted to the firearm.

[00010] In accordance with a still further general aspect of the present invention, there is provided an accessory mount for mounting at least one accessory to a C9 machine gun, comprising a body having localization aids adapted to be engaged with corresponding existing reference points at the front end portion of the C9 machine gun, a securing member for releasably mounting said body to the C9 machine gun, and a rail provided on said body for receiving an accessory to be mounted to the C9 machine gun.

[00011] In accordance with a still further general aspect of the present invention, there is provided an accessory for mounting at least one accessory to a firearm having a barrel, the accessory mount comprising a body having localization aids adapted to be engaged with corresponding existing reference points on the firearm, a rail mounted to said body for carrying the at least one accessory, said rail

being substantially aligned in parallel with said barrel and at a same elevation with respect thereto when said localization aids are engaged with the existing reference points on the firearm.

[00012] Other objects and advantageous features of the invention will be apparent from the following description.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[00013] Having thus generally described the nature of the invention, reference will now be made to the accompanying drawings, showing by way of illustration a preferred embodiment thereof, and in which:

[00014] Fig. 1 is a perspective view of an accessory mount removably secured to the housing of a C9 machine gun in accordance with a preferred embodiment of the present invention;

[00015] Fig. 2 is a perspective exploded view of the accessory mount shown in Fig. 1;

[00016] Fig. 3 is a perspective exploded view of the accessory mount with one of the side rail supports replaced by a cap member;

[00017] Fig. 4 is a perspective view of a second embodiment of an accessory mount removably secured to the housing of a C9 machine gun; and

[00018] Fig. 5 is perspective exploded view of the accessory mount shown in Fig. 4.

#### DESCRIPTION OF THE PREFERRED EMBODIMENTS

[00019] Fig. 1 shows an accessory mount 10 which is specifically designed to be releasably secured to the housing 12 of a C9 machine gun in order to mount accessories, such as infrared and night vision scopes, laser spotters and the like, thereon. Although the preferred embodiment of the present invention is applied to a C9 machine gun, it is understood that the same principles could be used to mount accessories to other types of firearms.

[00020] As shown in Fig. 1, the housing 12 of the C9 machine gun is made of a light metal sheet material folded in an elongated U-shaped channel for longitudinally receiving the barrel (not shown) of the machine gun. A plurality of circular holes 14 is defined in the housing 12 for air circulation to cool the barrel. A handguard (not

shown) made of a heat resistant plastic is typically mounted to the housing 12 to protect the hands of the user from heat coming from the barrel. As shown in Fig. 2, a pair of lugs 16 depends from the front end of the housing 12. The lugs 16 define a pair of transversally aligned bores 18. The bores 18 were originally intended for mounting a shoulder strap (not shown) to the C9 machine gun. As will be seen hereinafter, the present invention takes advantage of this existing bores for mounting the accessory mount 10 to the housing 12 of the C9 machine gun without having to modify the parts thereof.

[00021] The housing 12 is further provided with a point of attachment 20 at a relatively short distance rearwardly of the lugs 16 for allowing the C9 machine gun to be removably mounted to a firearm support of the type installed on motor vehicles for supporting rifles and the like in a shooting position while the vehicle is moving. The attachment point 20 comprises a pair of cylindrical projections 22 extending laterally outwardly from opposed sides of the housing 12. The cylindrical projections 22 define a pair of transversally aligned bores 24 adapted to receive a transversally extending pivot pin (not shown) forming part of the vehicle mounted firearm support.

[00022] The preferred embodiment of the accessory mount 10 comprises left and right side pieces 26a and 26b adapted to be positioned on opposed sides of the housing 12. The left side piece 26a is a mirror image of the right side piece 26b. Each side piece 26a and 26b is provided with a base portion 27 having first and second localization aids 28 and 30 adapted to be respectively engaged with the cylindrical projection 22 and the transversal bore 18. The first localization aid 28 is provided in the form of a circular hole 32 sized to tightly receive the cylindrical projection 22 extending from the side of the housing 12 on which the piece 26a, 26b is to be installed. The second localization aid 30 is provided in the form of a cylindrical peg 34 extending integrally at right angles from the inner side of the piece 26a, 26b. The peg 34 is sized and configured to tightly fit into the transversal bore 18. Accordingly, the left and right side pieces 26a and 26b can be readily and precisely positioned in a single predetermined position on the housing 12 by engaging the first and second localization aids 28 and 30 of the left and right side pieces 26a and 26b with the

corresponding existing reference points, namely the cylindrical projections 22 and the transversal bore 18, from opposed sides of the housing 12.

[00023] After the left and right side pieces 26a and 26b have been positioned on the opposed sides of the housing 12, the left and right side pieces 26a and 26b are drawn towards one another against the housing 12 by tightening a pair of transversal screws 36 in two pairs of transversally aligned holes 38 defined in the rectangular bridging portions 40 extending integrally from the inner side of the left and right pieces 26a, 26b between the first and second localization aids 28 and 30 thereof. This permits to securely mount the left and right pieces 26a and 26b on the housing 12 without any possibility for the first and second localization aids 28 and 30 from sliding off the corresponding mounting structures on the housing 12. The bridging portions 40 are configured to extend underneath the housing 12 between the transversal bore 18 and the cylindrical projections 22.

[00024] As shown in Fig. 2, each piece 26a, 26b has a pair of arms 42 extending upwardly from opposed ends of the base portion 27. The arms 42 are curved laterally outwardly to provide sufficient play for laterally accommodating the handguard covering the housing 12 of the machine gun. The arms 42 of each piece 26a, 26b are integrally connected at their upper ends by a longitudinally extending rail mounting member 44. Each rail mounting member 44 is provided on the outer surface thereof with a longitudinally extending guide 46 adapted to be received in a complementary longitudinally extending recess 48 defined in the rear surface of a rail 50. This ensures a precise positioning of the rail 50 on the rail mounting member 44. Screws 52 are provided to fixedly secure the rail 50 to the rail mounting member 44. Alternatively, the rails 50 could be permanently provided on the side pieces 26a and 26b.

[00025] The rails for firearms accessories are well known in the firearms art. The rails 50 used in connection with the present invention are known as Picatinny rails and each comprises a series of longitudinally spaced-apart ribs 54, such as specified in MIL-STD-1913. Such rails 50 are generally used for securing various Weaver style accessories.

[00026] When only one accessory has to be side-mounted to the C9 machine gun, one of the side pieces 26a and 26b can take the form of a cap member 56, as shown in Fig. 3. The cap member 56 is similar to the side pieces 26a and 26b shown in Figs. 1 and 2 but without the arms 42, the rail mounting member 44 and the side rail 50. It basically consists of the base portion 27 of the side pieces 26a and 26b with the localization aids 28 and 30 and the bridging portion 40.

[00027] The accessory mount can be sold as a kit comprising left and right side pieces 26a and 26b and a pair of mirror image left and right cap members 56. In this way, the end user can install a pair of side rails on the right and left sides of his/her firearm by using both side pieces 26a and 26b or, alternatively, he/she can use one of the side pieces 26a and 26b in combination with the corresponding opposed cap member 56 in order to install a single rail on a desired side on the firearm.

[00028] The side pieces 26a and 26b and the cap members 56 are preferably machined in a block of aluminum or magnesium. Alternatively, they could be molded by injection.

[00029] Figs. 4 and 5 illustrate a second embodiment of an accessory mount 10' which is adapted to be installed in place of the original handguard of the C9 machine gun. The only modification that has to be done to the C9 machine gun is to remove the original handguard to expose the sides of the housing 12.

[00030] According to the second embodiment of the present invention, it is the air circulation holes 14 defined in the housing 12 which are used to precisely localize the accessory mount 10' on the C9 machine gun. Like the accessory mount 10 shown in Figs. 1 to 3, the accessory mount 10' comprises a pair of left and right side pieces 26a' and 26b' adapted to be locked together against opposed sides of the front end portion of the machine gun. A set of three screws 36' (Fig. 5) engaged in transversally aligned holes 38' defined in the lower portion of the side pieces 26a' and 26b' are used to draw the side pieces 26a' and 26b' towards one another against the opposed sides of the housing 12. Dowel pins 37' are also provided to ensure proper alignment of the side pieces 26a' and 26b'. A pair of localization pegs 34' are provided on the inner surface of each side piece 26a', 26b' for complementary engagement with a pair of air

circulation holes 14 in the sides of the housing 12, thereby providing accurate positioning of the accessory mount 10' on the housing 10.

[00031] As shown in Fig. 5, the left side piece 26a' carries a bottom rail 56' for allowing an accessory to be mounted along the undersurface of the housing 12. The bottom rail 56' is preferably removably mounted to the left side piece 26a' by means of screws 58'. When there is no accessory on the bottom rail 56', a handguard 60' can be slid on the bottom rail 56' and removably secured thereon by means of a transversal pin 62' extending through a pair of transversally aligned holes 64' between a pair of ribs on the rail 56'. A stopper pin 66' extends upwardly from one end of the removable handguard 60' for engagement with the rear end of the rail 56' in order to stop the handguard on the rail to a predetermined securing position in which the transversally aligned holes 64' are accurately located in line between a pair of ribs on the bottom rail 56'.

[00032] The left and right side pieces 26a' and 26b' each carry along an upper end portion thereof a side rail 50' for mounting accessories along the sides of the machine gun. The side rails 50' are preferably removably mounted to the side pieces 26a' and 26b' by means of screws 52'. Each side rail 50' defines a channel 48' for receiving a corresponding longitudinally extending rail guide 46' provided on the outer side of the left and right side pieces 26a' and 26b'.

[00033] Air circulation holes 70' are defined in the side pieces 26a' and 26b'. Finger indentations 72' are also provided on the handguard 60' and the side pieces 26a' and 26b' to provide a better grip of the firearm when the accessory mount 10' is installed thereon.

[00034] The above-described accessory mounts are thus advantageous in that they provide accurate and stable positioning of the accessories on the firearm. Also the accessory mounts of the present invention can be quickly firmly secured to the firearms without modification to the basic parts thereof. A further advantage of the present invention resides in the fact that the longitudinal central axes of the rails 50 and 50' of the accessory mounts 10 and 10' are substantially aligned (i.e., at the same elevation) with the central axis of the band of the machine gun once the mounts are mounted thereto. Other embodiments of the present invention, and variations of the

embodiment described herein, may be developed without departing from the essential characteristics thereof.